

SESSION PAPERS

OVERVIEW & VISION

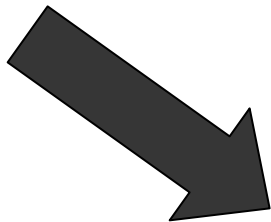
**STANDARD TEST EQUIPMENT
PLATFORM (MODULES)**

GWTS UPGRADE

COMMON ATS ARCHITECTURE

HARDWARE

SOFTWARE



AIRCRAFT INTERFACE EXAMPLE

MISSILE AUR ATS EXAMPLE

INTERNATIONAL CO-DEVELOPMENT OF A FLIGHT LINE TEST SYSTEM



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INTRODUCTION

1/20/2000

- 1998 Agreement To Co-Produce Aircraft To AMRAAM Interface Test System
 - For Use On German F-4F Aircraft
 - Flight Line Qualified
- Partnership Between Raytheon & STN ATLAS Elektronik GmbH
- Yields The “European Standard Programmable Advanced Systems Interface Simulator” - ES PASIS

INTRODUCTION

1/20/2000

- This Project Illustrates How Test Equipment Projects Provide Opportunities For International Teaming
- Weapon Systems Partners Often Focus On Work Share Across Elements Of The Prime Weapon System
- Consequently These Valuable Opportunities Are Often Overlooked

BENEFITS OF PARTNERING

1/20/2000

- Raytheon
 - Designer & Producer Of AMRAAM
 - AMRAAM Systems Integration & Interface Test Expertise
- STN ATLAS
 - Expertise In German & European Test Equipment Standards
 - Positive Relationship & With End Customer
 - In Country Support

AMRAAM CAPABILITY ADDED TO GERMAN AIR FORCE F-4s

1/20/2000

- German Air Force F-4Fs Upgraded To Support AMRAAM
- Nov & Dec 1995 Raytheon Team Tested All Upgraded F-4s Using PASIS®
- Thorough Testing Rapidly Identified AMRAAM Interface Problems That Were Soon Corrected
- IOC Declared Jan 1996

PASIS® - OPTIMAL TEST THOROUGHNESS

1/20/2000

- Pasis® Simulates AMRAAM Missile Interface & Data Logs All Aircraft Data
- Exercises The Aircraft In Real Time & In Operational Weapons Modes
- Dynamic, Simulation Based Pasis® Capability Identified Aircraft Problems That Would Have Been Missed With Traditional Aircraft To Missile Interface Testers

GERMAN GOVERNMENT INTEREST IN PROCURING PASIS® SYSTEMS

1/20/2000

- 1 Major Aircraft Failure Was In Launch Cycle
 - Led To Aircraft Hardware Modification
 - Avoided Cost Escalation In Flight Test
- German Government Impressed With PASIS® Test Results
- Decided To Procure PASIS® Capability

GERMAN GOVERNMENT INTEREST IN PROCURING PASIS® SYSTEMS

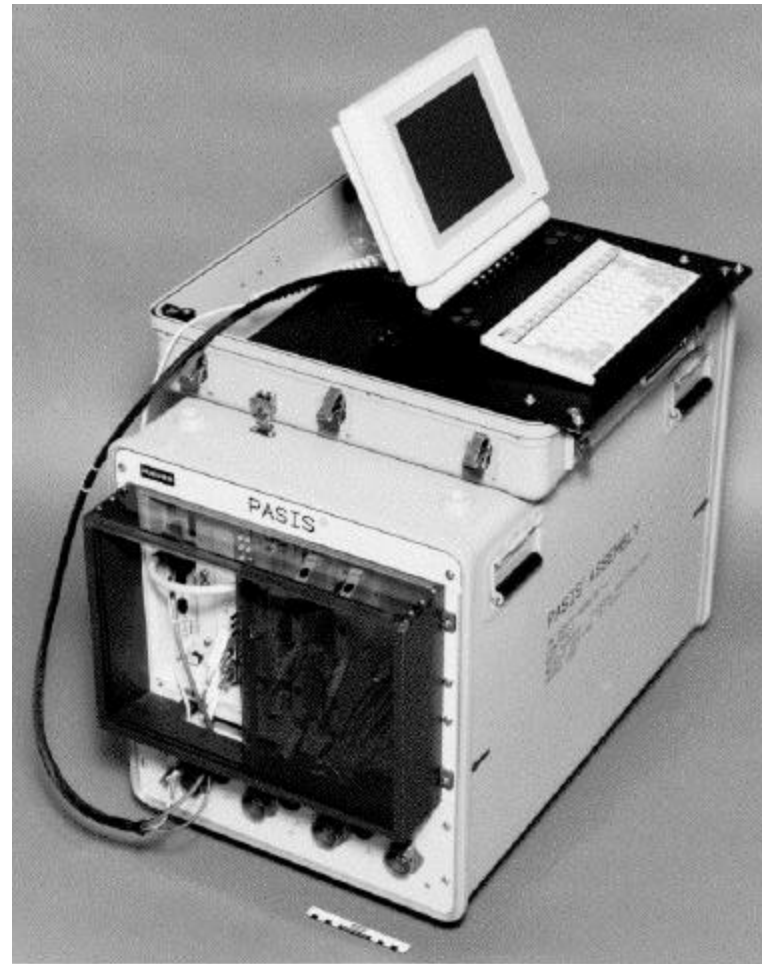
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- Intended Deployment
 - Maintenance Hall
 - Flight Line
 - **All Weather**
 - Out Of Area, NATO Deployments
- German Government Generated Spec
 - Exceeded Environmental Capabilities Of Existing PASIS®

RAYTHEON PISIS®

11/20/200

Proven
Engineering
Test Tool



Not Fully
Qualified For
Flight Line
Environment

RAYTHEON - STN ATLAS TEAMING AGREEMENT

1/20/2000

- Business Agreement Focused On Meeting Specification With Best Customer Value
- Raytheon:
 - Proprietary Cards & Executable Software
 - Engineering Support & Special Test Equipment
- STN ATLAS
 - NRE: Packaging & Environmental Qualification
 - Procurement, Manufacturing, Assembly
 - Customer Interface

RAYTHEON - STN ATLAS TEAMING AGREEMENT

1/20/2000

- Business Agreement Focused On Contractual Elements
 - Offset Credits
 - Royalties To Raytheon
 - European Sales Opportunities For STN ATLAS
- Export Licensing
 - Export Of Technical Data
 - Manufacturing License Agreement (MLA)
 - Third Party Export

ES PASIS DEVELOPMENT & DEPLOYMENT

1/20/2000

- Contract Award January 1998
- STN ATLAS - Prime Contract
- Raytheon - Subcontractor
- German Government - 1st Customer
 - Coined Name: European Standard (ES) PASIS
 - Based On European Flight Line TE Standards
- Design Qualified March 1999
- Four Units Completed December 1999

RAYTHEON - STN ATLAS ES PASIS

11/20/2000

Functionally
Equivalent
To PASIS®



Fully
Qualified For
Flight Line
Environment



ES PASIS GETS A THUMBS UP

11/20/2000

Hands-On
Training
Course



German Air
Force
Maintenance
Troops

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ADDITIONAL ES PASIS CUSTOMERS

1/20/2000

- 1999 Deliveries To Greek Air Force
 - Supports Similar F-4/AMRAAM Upgrades
- Potential “F-18” European Country
- Suitable For All AMRAAM Users
 - On All Aircraft Types

CONCLUSION

1/20/2000

- Weapon Systems Ever More International
- Test Equipment Teaming Opportunities
 - Work Share For Best Customer Value
 - Maximum Leverage Of Expertise
 - In Country Support & Services

• Test Equipment Opportunities Often Overlooked Due To Narrow Focus On Elements Of The Prime System